

## ABSTRACT

A method and system of the present inventions reduces both NEXT and FEXT interferences due to handshake tones into upstream and downstream neighboring services, both at the CPE and at the CO, when handshake is experienced. An embodiment of the present inventions is directed to significantly reduce the NEXT and/or FEXT interferences due to handshake tones. For example, NEXT and/or FEXT interferences due to G.994.1 handshake tones, identified as, bins 7 and 9 for the Upstream channel and bins 12, 14 and 64 for the Downstream channel may be reduced. An embodiment of the present inventions provides an algorithm that may be used for both NEXT and FEXT Handshake Interferences reduction at the CO and at the CPE. In addition, the algorithm may operate in the time domain and in the frequency domain. Frequency domain algorithm offers two options, both versions taking advantage of the high correlation time of the Handshake tone signals.

15